A Hidden Link to Foster Equity and Inclusion?

A Study on the Defining Features of Academic Makerspaces

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Equity in the Making Lab | Project funded by NSF Award # 1942930

MIRA
July 15, 2021
Welcome!

Chat Storm and lots of resources

Book Raffle 

Re-making the Library Makerspace: Critical Theories, Reflections, & Practices

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Speakers

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Agenda

About the Project

Findings:

- Defining Makerspaces
- Affect, Emotion & Intangibility

Next steps: So what? Now what?

Q&A
Outcomes

● Outline the defining features and values undergirding a makerspace.

● Identify the connection between identifying a "makerspace" and equity/inclusion efforts.

● Leave with a reference guide that outlines the top features (sights, sounds, and scents) of a makerspace as defined by makerspace leaders.
About the Project
Research question:
Why do marginalized undergraduate populations turn away from the threshold of university makerspaces?

Aim #1:
Examine spatial organization of UNC system makerspaces

Aim #2:
Analyze real-time reactions to conventional UNC makerspace in VR

Aim #3:
Investigate impact of re-designed makerspace on diverse user populations
Overarching Research Question: “How does a makerspace spatially communicate who belongs in the space?”
Chat Storm Question!

How do you *know* a makerspace is a makerspace?
Project design

- Qualitative research informed by Grounded Theory
- Purposive sampling
  - 17 UNC System Universities
  - 12 universities with makerspaces
  - Interviewed 17 leaders from 11 universities
- Collaborative coding via MAXQDA and weekly team meetings:
  - Check out the Equity in the Making blog for more research details
Defining Makerspaces
What does a typical makerspace smell like?
bit.ly/mira-eitm

Defining Features of Makerspaces: Full Findings
# The Contentions of Defining a Makerspace

<table>
<thead>
<tr>
<th>10</th>
<th>8</th>
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<tbody>
<tr>
<td>Discomfort with stating one’s values or beliefs</td>
<td>Avoiding or broadening the term “makerspace”</td>
<td>Difficulty integrating prior experiences with desired preferences</td>
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Overarching Features

- Bright Colors (10)
- Openness (10)
- Check-in Areas (8 vs. 5)
People

- Staff look similarly to students (10)
- Young adults or “Student-age” (6)
- Skew male (5)
- Skew white (4)
- Intentional staff differentiation (4 vs. 2)
- Couched responses re: diversity (3)
Assets

Furniture
  Work tables/benches (13)

Displays
  Examples (11)

Signage
  Safety (8)

Tools
  3D Printers (16)

Materials
  Acrylics/plastic (13)

Sounds
  Conversations/talking (14)

Smells
  Burning/melting (11)
Why is this definition work important?

Illustrates how different aspects of a makerspace collectively communicate the goals, values, and audience of the space.
Affect, Emotion & Intangibility
What does a typical makerspace feel like?
Themes Related to Affect/Emotion/Intangibility

- Affect: 14
- Support: 11
- Collaboration: 8
- Creativity: 6
Affect

Non-linguistic forces that shape the movement, behavior, and feelings of people within a space

- “good vibes”
- “a community feeling”
- “a family feeling”
- “a place where you can really be yourself”
Support

Assistance from experts and/or peers

- “come in to get help”
- “there are experts there to assist you”
Collaboration
People working together

- Ability to ask others about their work
Creativity

Offering opportunities to create as the purpose of the makerspace

- Creating physical things
- Creating knowledge
Makerspace Vibes

What and who are a makerspace for?
What produces good vibes for one person might produce anxiety for another.

What does support look like?
Some people might prefer someone to approach them while others might prefer to seek someone out.

How does a space facilitate collaboration and creativity?
If these are at the heart of a makerspace, we can expect physical features to reflect that.
Why is “What does an typical makerspace feel like?” an important question?

This unexpected aspect of makerspace definitions came across consistently in participants’ definitions and discussions of makerspaces.
So what?
Now what?
Research question:
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Phase 2

- Submit publications from phase 1
- Phase 1 findings = VR makerspace
- Real-time data collection on “first impressions” and reactions in a makerspace
- Think-aloud protocol and eye-tracking data

Image of Tobii VR eye tracking heat map
Equity in the Making Lab

EQUITY IN THE MAKING LAB
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Thank you!

Let’s connect:

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